

[7SF-03] STUDY ON THE EMBEDDED STAR CLUSTER IN THE G173.52+2.45 MOLECULAR CLOUD

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G173.58+2.45 (IRAS 05361+3539) is an ultracompact HII region associated with a GMC complex ($\alpha_{2000}=5:39:27.7$, $\delta_{2000}=+35:40:43$) located at a distance of about 1.8 kpc from the Sun. The molecular cloud containing G173.58+2.45 is well isolated and also embeds young stellar objects. We study this region using the ¹²CO J=3-2 line, observed with the SMT (Sub-millimeter Telescope, Arizona) 10m telescope, and the near-infrared data (J, H and Ks bands, H₂ and Br γ) taken with the WIRCam equipped on the CFHT (Canadian-France-Hawaii Telescope, Hawaii). We performed the CO line analysis, point source identifications, extinction corrections using color-color and color-magnitude diagrams. The age of the stellar cluster was found to be much less than 1 Myr and, compared to other typical embedded stellar clusters, this cloud contains relatively large number of low mass (~ 1 Mo) stars, which may indicate that this cloud is in the very early stage of star formation. We discuss on the properties of the embedded stellar cluster and the molecular gas cloud associated with.

[7SF-04] Searching for Members of the Scorpius Centaurus Region

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We present the result of the spectroscopic observation in the Lower Centaurus-Crux region of the Scorpius Centaurus (ScoCen) OB association using the UKST/6dF spectrograph. We found 15 candidate members and 6 questionable members of this young stellar group by confirming the Li I absorption line among 339 target objects. The result shows about 5 percent successful rate of our target selection method. It will promise us to find over 3,000 low mass members from the ScoCen Project with an unbiased surveying over 1,500 square degrees, which the number of currently suggested low mass members is less than 600. One of candidate members shows high radial velocity of about 300 km/s, which might contribute to understand the dynamics of the multiple system. It requires, however, further detail follow-up observation to know the origin of this peculiar object.